We have observed also a number of short but useful additions and emendations in the descriptions of various of the bones, so that the present edition exceeds the last by thirty-eight pages. The illustrations also have been increased by the insertion of eight more woodcuts. We wish to give a hearty recommendation to all students of the Mammalia, to use this new edition of a book, written by the anatomist who is admittedly one of the highest authorities on their structure.

Catalogue of the Fossil Mammalia in the British Museum. Part II. Artiodactyla. By Richard Lydekker, B.A. (London: Printed by order of the Trustees, 1885.)

MR. LYDEKKER published in January 1885 the first part of the Catalogue of Fossil Mammals in the British Museum, and in it he recorded the specimens belonging to the Orders Primates, Chiroptera, Insectivora, Carnivora, and Rodentia. He has rapidly followed this up by the preparation of the second part, containing the sub-order Artiodactyla of the great Order Ungulata. The Natural History Department of the British Museum is remarkably rich in specimens of this sub-order, and though in the Catalogue, in the larger number of instances, only the briefest possible description of each specimen is given, yet the volume has reached 324 octavo pages. The collections, in addition to those enumerated in the first part, which have furnished specimens, are the Bowerbank, Layton, Sloane, and Wigham collections. The author points out that he has employed generic terms in a wider sense than is the case with many writers. Thus he does not regard a difference of one or more premolar teeth, or in the number of digits, in allied forms, as a bar to generic unity, and accordingly he includes the genus *Eurytherium* in *Anoplotherium*. The Catalogue has been compiled with the care which distinguishes the catalogues of our great national Museum.

LETTERS TO THE EDITOR

[*The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts. No notice is taken of anonymous communications.*

[*The Editor urgently requests correspondents to keep their letters as short as possible. The pressure on his space is so great that it is impossible otherwise to insure the appearance even of communications containing interesting and novel facts.*]

On "Seter," or Parallel Roads

I SEE to my great vexation that in my former letter on parallel roads (NATURE, January 21, p. 268) I have made a rather hideous blunder in my English to the great disadvantage of the clearness of my theory. I have used the French-German-Norwegian term "rest" as signifying *le reste*. My theory is that the last "rest," *i.e.* residue, of the inland ice formed a great dam somewhat seaward from the watershed; I do not refer to any "rests," *i.e.* reposes, in the great ablation.

It is a fact that the glacier-shed in Central Norway was situated as far as 150 kms. to the south or east of the watershed. The direction of the striæ and the boulder-transport renders this indisputable. By the melting of the ice I now suppose that the last remains must have lingered near the glacier-shed. We find the last residue far to the south of the watershed. I cannot find with Mr. Melvin that this idea reverses the order of Nature. The precipitation and temperature in Christiania and in Trondhjem now differ very inconsiderably, and the difference in height between the former glacier-shed and the watershed is not very great, while the distance from this to the sea is five times as great to the south as to the north.

This residue now in all valleys dams up lakes to the cols; in these lakes the terraces of gravel with laminated clay are built up; and on their shores the *seter* or parallel roads are formed. Nothing is simpler.

When I first got this conception I only knew the Österdal (and Lochaber) *seter*, but I concluded that parallel roads and inland terraces were to be expected in all valleys where the striæ proved that the glacier-shed lay seaward to the watershed. I next found some notice of such formations in the neighbouring valleys Gudbrandsdalen in Norway, and Herjedalen in Sweden. Having already finished my paper, I got a dissertation of Högbom in which, as expected, Jemtland was included in my *sete* region. In my letter to NATURE I further inferred that parallel roads must needs exist in Swedish Lappmark. This conclusion has also since proved to be correct. Dr. Svenonius has found a *sete* at Sitasjaur: the correlation of striæ going upwards against the drainage with terraces and parallel roads at a height corresponding with the cols. This is established between 61° 40′ and 68° in Scandinavia as well as at Lochaber. Nowhere else are parallel roads known in Europe. This local geographical distribution is perhaps the best argument for my theory of lakes dammed up by the gradually diminishing residue of the inland ice situated at a distance from the watershed, near the former glacier-shed.

Mr. Melvin's theory of lateral moraines was also my original working hypothesis; but it gives no explanation of the great terraces which are connected with the parallel roads, nor of the laminated clay (with Desmidieæ) in the terraces as well as in the *sete* itself. Any one who has walked for kilometres on a *sete*, smooth as a road, without any variation of the aneroid (the greatest difference in Lochaber is 4 metres), will hardly be able to dismiss the idea of a water-level. How Mr. Melvin will account for the alternating shelves *cut in the rock* I cannot see.

ANDR. M. HANSEN

University Library, Christiania

P.S.—Errata in my former letter: p. 268, col. 2, line 11, for "280 kms." read "150 kms."; line 30 from bottom, for "till" read "tell."

Mimicry in a Neuropterous Insect

I HAVE been much struck by a somewhat complex form of mimicry in a neuropterous insect of the genus Mantispa, which would not be suspected if only a cabinet specimen were seen, with the wings extended motionless, with its raptorial fore-legs folded in front of the head. The insect, as I observed it, was on the bare whitewashed wall of a house at Delhi, exposed to the afternoon sun. As I then believed it to be a dipterous insect feeding on some substance stuck to the wall, it is probable that its prey, most likely the common house-fly, would be similarly deceived, and, being attracted to the spot in hopes of sharing the food, would fall a victim.

The prothorax is curiously modified, both in colour and shape, so as to resemble a proboscis, while the head and fore-legs are so compactly folded that they look like some solid substance adherent to the wall or stone on which the insect is resting, and not part of the creature itself. The mesothorax has two eye-like spots shaded so as to simulate the reflections of light from the compound eyes of an insect, while the markings of the abdomen, seen through the transparent wings, are very dipterous in character.

The points where the Mantispa seems to fail in its likeness to a fly are in the size of the prothorax, which is more massive and thick than the proboscis of any fly; there is a want of prominence in the mesothorax representing the fly's head; the venation of the wings is different; and, lastly, there are apparently only four legs instead of six.

These faulty points are seen at once on a minute inspection; but it may be imagined that it is only necessary to attract the attention of a fly passing at some distance, and convey a certain mental impression, which in the simple mind of a fly may not be effaced till the desired object has been attained, and the victim brought within reach of the Mantispa's arms.

The resemblance between the fore-legs of the praying Mantis and the same organs in Mantispa is remarkable when it is remembered that the two insects belong to different natural orders. The fore-leg of Mantispa is the more specialised, and has great lateral motion, while the edges of the femur are armed with teeth slightly blunt at the tips, so that the captured insect can be shifted if necessary. The joints in the same limb in the Mantis are simple hinges, and both the femur and tibia are fringed with a double row of very sharp spines, which are necessary to pierce and retain a hold on the thin unsubstantial wings

of a butterfly which the Mantis patiently waits for, perched on the top of some conspicuous head of flowers.

Simla, January 17 E. R. JOHNSON

Fabry's Comet

ON the 6th inst., with a power of 38 on a 4¼-inch refractor, I observed that this comet had a distinct, though very faint, tail, at a position-angle of about 85°; length 13½′. The radius of the coma was about 3′. I thought I could see the tail on the 1st inst., but was not quite sure of it then. The comet's spectrum strikes me as less distinct than is the case with most comets. On the 1st inst. I could only see two bright lines (or bands) certainly; and the less refrangible of these was very faint. I suspected a third band towards the more refrangible end of the spectrum. T. W. BACKHOUSE

Sunderland, February 13

Mist-Bow

ON the Wiltshire Downs, near Marlborough, at about 4 o'clock on February 10, I observed a white mist-bow, in position and shape resembling the rainbow, but pure white, and the arc was of considerable width throughout, estimated at 5°–10°, altitude of the sun 15°–20°, altitude of the summit of the bow 35°–45°. The wind was slight, and there was a frost at the time, and a thick deposit of rime on the trees, &c. Has this been observed elsewhere or explained? Is the phenomenon due to the superposition of coloured bows, or to the polarisation of the semi-crystallised vapour composing the fog? A. E. E.

Movement of Telegraph-Wires

THERE can be no doubt that Mr. Mountford Deeley correctly attributes the rotatory oscillation of the wires during frost to the air-current acting upon a "wing" of ice-spicules. I described this phenomenon in *Science Gossip*, 1874, p. 254, and explained the cause of it in NATURE, vol. xxiii. p. 338.

Birstal Hill, Leicester F. T. MOTT

HENRY BRADSHAW

UNFORTUNATELY it far too often happens that there seems to be an impassable gulf fixed between the man of letters and the man of science, which hinders the one not only from partaking in, but even from appreciating, the ideas, the objects, and the methods of the other. There is no need, especially here, to impute blame to either; but when a man of letters is found who, modestly making not the least pretension to scientific knowledge, yet sympathises deeply with the man of science, some acknowledgment of the fact seems to be due. Such an instance there was in Mr. Henry Bradshaw, Senior Fellow of King's College, and Librarian of the University, whose sudden removal Cambridge is now mourning. Of his literary ability, his bibliographical accuracy, his mastery of one important period of English poetry, and his knowledge of early printed books, this is not the place to speak. Justice to those qualities doubtless is being, or will in due time be, rendered by other writers, better fitted to pronounce an opinion upon them. But here may be appropriately recorded the enthusiasm—for no other word will suit—with which he at all times entered into and aided inquiries, investigations, and researches that most men in his position would have considered to lie entirely outside of their own, and as such to be without any dereliction of duty disregarded. His time, his energy, and his varied attainments were always at the disposal of any member of the University, whose servant, in the highest sense of the word, he rejoiced to be. But there was no need for any one to be a member of the University to obtain his help. Accessible at all times to all who sought him, the asking of a simple question was a sufficient introduction, and whether that introduction was only the prelude to an acquaintanceship which might speedily ripen into a friendship depended far more on the person who asked it than on himself. By the younger members of the University to whom he was known, and the number of them was vast, he was regarded with feelings of affection, that it would seem almost exaggeration to describe, and his influence over them, always tending towards the highest ends, was proportionately great. But here it is more fitting to dwell upon the active sympathy he showed with students of biology. His great intimacy with the late Mr. G. R. Crotch had led him to take an extreme interest in the literature of systematic zoology, and particularly in the precision which is required of those who pursue the branch of it relating to the Coleoptera, not that Mr. Bradshaw must be supposed to have had any knowledge of the subject. It was simply the method of accurate work which excited his admiration, and that method, he has more than once told the present writer, had largely influenced his own bibliographical investigations, the high value set upon which must be told by those whom they concern. Never taking offence, wholly free from pride, always ready to put the best construction on every man's conduct, catholic in all his feelings, Mr. Bradshaw passed away in his College rooms, apparently without any suffering, on the night of the 10th or morning of the 11th of this month—an end to be envied by most men. A. N.

THE COAL-DUST QUESTION

IN the last paragraph of my letter to NATURE (Dec. 31, p. 197), I stated that those who, having investigated the question of the influence of coal-dust in colliery explosions, had come to the conclusion that coal-dust is not, as a rule, the principal agent in an explosion occurring in a dry and dusty mine, appear to have omitted to take one important element of the case into consideration; and in saying so I implied that, if they had not made this omission, their conclusions in this respect would probably have been more in accordance with my own.

All the important experiments with coal-dust on a large scale have been made in wooden boxes or galleries of greater or less length, open at one end and closed at the other. The ignition or explosion has usually been begun at or near the closed end, and been propagated towards the open end, driving part of the contents of the gallery out into the air in front of it.

Certain conclusions in regard to colliery explosions have been drawn from the results obtained on this small scale which appear to ignore the fact that the conditions here prevailing are far less favourable to the propagation of the coal-dust flame than those which obtain in a mine at the instant an explosion is sweeping through it. For, it is obvious that in the former case the air is practically at *constant pressure* while the explosion lasts, whereas in the latter case it is practically at *constant volume* during the same period. But as the amount of heat required to raise the mixture of air and coal-dust to the temperature of ignition in the first case is greater than that required to effect the same result in the second case in the ratio of 1·41 to 1, it follows that an explosion having been once begun in either case will be propagated much more rapidly and surely in the mine than in the apparatus. Thus it is that a kind of coal-dust which produces comparatively feeble results in the apparatus may give rise to very disastrous consequences in the mine.

An illustration of this difference of behaviour under the two sets of conditions has been furnished by the dust of Camphausen Colliery in Germany. When subjected to the experimental test in the large apparatus at Neunkirchen, already described in these pages, it was found to be far down the list in point of relative danger, and was pronounced to be, like most of the other dusts in the same list above and below it, of a comparatively harmless